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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/081,465 | 02/22/2002 | Edward Robert Perry | PERRY-010 | 1060 |

7590 05/05/2006

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| EXAMINER |
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PRONE, JASON D

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| ART UNIT | PAPER NUMBER |
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3724

DATE MAILED: 05/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/081,465

Applicant(s)

PERRY, EDWARD ROBERT

Examiner

Jason Prone

Art Unit

3724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 1-16 and 23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

It is noted that for the purposes of searching for and applying prior art under 35 U.S.C. 102 and 103, absent a clear indication in the specification or claims of what the basic and novel characteristics actually are, "consisting essentially of" will be construed as equivalent to "comprising." See, e.g., PPG, 156 F.3d at 1355, 48 USPQ2d at 1355

See MPEP 2111.03. "consisting essentially of" is a middle ground between comprising" and "consisting of". If the specification is not clear as to what can and cannot comprise the invention (for example, there's no statement that "my tool does not use a blade guard", if your reference has it, and it does not materially affect the knife blade to have a guard, consider the limitation "comprising" and open.

The transitional phrase "consisting essentially of" limits the scope of a claim to the specified materials or steps "and those that do not materially affect the basic and novel characteristic(s)" of the claimed invention. In re Herz, 537 F.2d 549, 551-52, 190 USPQ 461, 463 (CCPA 1976)

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 21 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The newly added phrase "small abrasive particles are a different material than the large abrasive particle" is not supported by the specification or is this limitation featured in one of the original claims. In light of the specification and original claims not supporting this limitation, the newly added subject matter is considered new matter.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 17, 18, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Ishizuka (6,098,609).

In regards to claim 17, Ishizuka discloses the same invention including a saw blade (Column 1, Technical Field) consisting essentially of a matrix (Figs. 3A-D) for encapsulating large and small abrasive particles in the matrix (33, it is noted that all the portions labeled 33 are not exactly the same size. It is inherent that some of the items labeled 33 will be larger/smaller than other items labeled 33, therefore, 33 designates both large and small abrasive materials), the small abrasive particles being encapsulated inside the matrix in a high-density concentration (Figs. 3C and 3D), the blade being corrugated with substantially uniform thickness (31) and comprising raised surfaces and lowered surfaces (Fig. 3B), the lowered surfaces being parallel to and spaced laterally and longitudinally of the raised surfaces (Fig. 3B), and transition portions connecting the raised surfaces and the lowered surfaces (Fig. 3B).

In regards to claim 18, Ishizuka discloses the transition portions are at an angle to the raised and lowered surfaces (Fig. 3B).

In regards to claim 20, Ishizuka discloses the raised and lowered surfaces are substantially flat (Fig. 3B).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishizuka in view of Greenspan (4,114,322). Ishizuka discloses the invention but remains silent with respect to the angle at which the transition portions interacts with the raised and lowered surfaces. Therefore, Ishizuka fails to disclose the transition portions are at a 45° angle to the raised and lowered surfaces.

Greenspan teaches transition portions that are at a 45° angle to the raised and lowered surfaces (Fig. 3). Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided Ishizuka with transition portions that are at a 45° angle to the raised and lowered surfaces, as taught by Greenspan, to allow the raised and lowered surfaces to be separated laterally and longitudinally with the smallest transition portion and also to maintain symmetry throughout the blade.

7. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishizuka in view of Hagan (5,997,597). Ishizuka discloses the invention but fails to disclose the small abrasive particles are a different material than the large abrasive particles. In view of the fact that the piece of abrasive materials of Hagan will not all have the same size allowing some of the pieces to have larger status and some of the piece to have a small status, Hagan teaches the use of two different abrasive materials (abstract).

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Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided Ishizuka with two different types of abrasive material, as taught by Hagan, to allow for improved tool life.

8. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishizuka. Ishizuka discloses the invention including a saw blade (Column 1, Technical Field) consisting essentially of a corrugated shaped blade of substantially uniform thickness (Fig. 3B) comprising a matrix material (Fig. 1), large abrasive particles encapsulated in the matrix material (33), small abrasive particles in the matrix material between and around the large abrasive particles (33, it is noted that all the portions labeled 33 are not exactly the same size. It is inherent that some of the items labeled 33 will be larger/smaller than other items labeled 33, therefore, 33 designates both large and small abrasive materials), the small abrasive particles being encapsulated in higher density by volume than the larger abrasive particles (it is inherent that the small abrasive particles are encapsulated in a higher density due to the fact that they incorporate a smaller surface area and therefore allow more of the smaller particles into a given area), the corrugated shaped blade comprising raised surfaces (Fig. 3B) and lowered surfaces parallel to and spaced laterally and longitudinally of the raised surfaces (Fig. 3B), and transition portions connecting the raised and lowered surfaces (Fig. 3B).

Ishizuka appears to disclose the depth of the corrugations is greater than the thickness of the corrugated shaped blade by a ratio of greater than 3 to 1 in Figure 3B, however, Ishizuka does not actually disclose this ratio only a Figure that might not be to

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scale. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the depth of the corrugations be greater than the thickness of the corrugated shaped blade by a ratio of greater than 3 to 1, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided Ishizuka with corrugations with a depth greater than the thickness of the corrugated shaped blade by a ratio of greater than 3 to 1 to allow for the corrugations to have a specific shape and/or contain a desired amount of abrasive material.

Response to Arguments

9. Applicant's arguments filed 21 February 2006 have been fully considered but they are not persuasive. The claims fail to disclose a saw blade made entirely of a matrix material. Ishizuka clearly discloses a saw blade consisting essentially of a matrix and a saw blade consisting essentially of a corrugated shaped blade comprising a matrix material. Item 31, of Ishizuka, is considered part of the blade and does incorporate a corrugated shape. The claim discloses that the blade must have a corrugated shape, which 31 clearly incorporate. Also, Item 31, of Ishizuka, is clearly an equivalent to item 34 of the instant application. Item 34 of the instant application clearly acts as a base for the abrasive material to be deposited on. The terms "small" and "large" are relative terms. Abrasive particles belonging to the 60/80 mesh incorporate small and large abrasive particles within the group. The abrasive particles can have

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numerous different small and large sizes and still fall through a 60 mesh and not through an 80 mesh. The claims do not incorporate any mesh size limitations.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Prone whose telephone number is (571) 272-4513. The examiner can normally be reached on 7:30-5:00, Mon - (every other) Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Boyer D. Ashley can be reached on (571) 272-4502. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

May 01, 2006



Patent Examiner
Jason Prone
Art Unit 3724
T.C. 3700

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